

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Please amend claims 37, 53, 54, 62-64, 70, and 72, and add new claim 76, as follows:

Claims 1-36 (Cancelled).

37. (Currently Amended) A system architecture resident on a computer-readable storage medium for managing a communication network comprising network equipment, said equipment having associated control interfaces, the architecture comprising:

a base layer for proxying said interfaces and for decoupling said interfaces from management functions, said base layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising at least one of a workflow engine, a rule engine, and a combination thereof; ~~and~~

a support layer superposed to said base layer and comprising a plurality of agents ~~co-ordinating~~ coordinating operation of said base layer in order to support distributed management functionalities;

a database storing instruction information; and

a manager application configured to distribute said instruction information from said database to at least one of said base layer and said support layer.

wherein said distributed management functionalities include FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities,

wherein said plurality of agents are hosted on at least one machine, ~~and said agents being movable among different machines, and~~

wherein said layers are ~~adapted~~ configured to perform respective functions based on ~~respective~~ said instruction information ~~provided to them,~~

wherein said layers are configured to modify respective functions in response to said instruction information,

wherein said plurality of agents communicate information indicative of a status of said plurality of agents to said manager application, and ~~and a database is provided for storing said instruction information, the architecture being arranged for distributing said instruction information from said database to said layers~~

wherein, in response to said status information, said manager application modifies the configuration of at least one among the base layer and the support layer.

38. (Cancelled).

39. (Previously Presented) The architecture of claim 37, wherein said base layer comprises:

a sub-layer of protocol adapters for interfacing a set of network equipment offering a given protocol; and

a sub-layer of resource proxy modules, each said proxy module providing a representation of the configuration of given network equipment according to a defined information model.

40. (Previously Presented) The architecture of claim 39, wherein said resource proxy modules are configured for aligning said representation to the network of given network equipment by at least one operation selected from the group of:

performing all the management actions on said network by invoking operation through at least one associate protocol adapter;

receiving at said resource proxy modules all the notifications sent by said network equipment; and

performing a periodical verification of alignment between the representation of the network equipment and said network equipment.

41. (Previously Presented) The architecture of claim 40, wherein said resource proxy modules are configured for enrichment with element manager information.

42. (Previously Presented) The architecture of claim 40, wherein said resource proxy modules are configured for running processes using said process executors.

43. (Previously Presented) The architecture of claim 40, wherein said resource proxy modules are configured for interacting directly with one another in an interworking relationship.

44. (Previously Presented) The architecture of claim 37, wherein said agents in said community are configured for running vendor and technology independent services.

45. (Previously Presented) The architecture of claim 37, comprising at least one manager application configured for performing functions selected from the group of:

- managing distribution of processes between said base layer and said support layer;
- managing distribution of information models between said base layer and said support layer;
- monitoring the state of the architecture on the basis of information provided by said agents in said community;
- interacting with external systems; and
- executing management processes.

46. (Previously Presented) The architecture of claim 45, wherein said at least one manager application comprises a separated, additional upper layer in said architecture.

47. (Previously Presented) The architecture of claim 45, wherein said at least one manager application is at least partly integrated to said support layer.

48. (Previously Presented) The architecture of claim 37, wherein all said layers in said architecture include process executors.

49. (Previously Presented) The architecture of claim 48, wherein each of said process executors in each of said layers comprises at least one of a workflow engine, a rule engine and a combination thereof.

50. (Cancelled).

51. (Cancelled).

52. (Previously Presented) The architecture of claim 37, wherein said instruction information comprises at least one of:

process definitions comprising at least one of workflows and rules; and
data model definitions.

53. (Currently Amended) The architecture of claim 37, ~~comprising at least one wherein the~~ manager application is configured ~~for managing to manage~~ distribution of information models between said base layer and said support layer, said database being associated with ~~said at least one~~ the manager application.

54. (Currently Amended) A method of managing a communication network comprising network equipment, said equipment having associated control interfaces, the method comprising the steps of:

providing a base layer proxying said interfaces and decoupling said interfaces from management functions;

executing, in said base layer, distributed processes concerning management of said network, each of said processes comprising at least one of workflows, rules, and combination thereof;

supporting distributed management functionalities via a support layer superposed to said base layer and comprising a plurality of agents ~~co-ordinating~~ coordinating operation of said base layer;

including FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities as said distributed management functionalities;

hosting at least part of said agents on different machines;

moving said agents among different machines;

performing in each of said layers, functions based on ~~said~~ instruction information;

providing a database for storing said instruction information for each of said layers;

distributing said instruction information from said database to each respective layer; and

modifying at least one of the distributed processes based on ~~the~~ said instruction information, such that a function of the at least one distributed process is changed;

providing a manager application configured for distributing said instruction
information from said database to at least one of said base layer and said support layer;
providing information indicative of a status of said support layer to said manager
application; and
modifying the configuration at least one among said base layer and said support
layer in response to said status information.

55. (Cancelled).

56. (Previously Presented) The method of claim 54, further comprising the steps of:

providing a sub-layer of protocol adapters for interfacing a set of network equipment offering a given protocol; and

providing a sub-layer of resource proxy modules, each said proxy module providing a representation of the configuration of given network equipment according to a defined information model.

57. (Previously Presented) The method of claim 56, further comprising the step of configuring said resource proxy modules for aligning said representation to the network of a given network equipment by at least one operation selected from the group of:

performing all the management actions of said network by invoking operation through at least one associated protocol adapter;

receiving at said resource proxy modules all the notifications sent by said network equipment; and

performing a periodical verification of alignment between the representation of the network equipment and said network equipment.

58. (Previously Presented) The method of claim 57, further comprising the step of configuring said resource proxy modules for enrichment with element manager information.

59. (Previously Presented) The method of claim 56, further comprising the step of configuring said resource proxy modules for running processes using a process executor.

60. (Previously Presented) The method of claim 56, further comprising the step of configuring said resource proxy modules for interacting directly with one another in an inter-working relationship.

61. (Previously Presented) The method of claim 54, further comprising the step of configuring said agents in said community for running vendor and the technology independent services.

62. (Currently Amended) The method of claim 54, ~~further comprising~~ wherein the ~~steps~~ step of providing ~~at least one~~ a manager application ~~for~~ further comprises performing steps selected from the group of:

managing distribution of processes between said base layer and said support layer;

managing distribution of information models between said base layer and said support layer;

monitoring the state of said layers on the basis of information provided by said agents in said community;

interacting with external systems; and

executing management processes.

63. (Currently Amended) The method of claim 62, further comprising the step of configuring said ~~at least one~~ manager application as a separated upper layer in addition to said base proxying layer and said support layer.

64. (Currently Amended) The method of claim 62, further comprising the step of at least partly integrating to said support layer said ~~at least one~~ manager application.

65. (Previously Presented) The method of claim 54, further comprising the step of providing process executors in all said layers.

66. (Previously Presented) The method of claim 65, further comprising the step of providing in said process executors at least one of a workflow engine, a rule engine, and combinations thereof.

67. (Cancelled).

68. (Cancelled).

69. (Previously Presented) The method of claim 54, further comprising the step of providing in said instruction information at least one of:

process definitions comprising at least one of workflows and rules, and
data model definitions.

70. (Currently Amended) The method of claim 54, further comprising the steps of:

providing ~~at least one~~ said manager application configured for managing distribution of information models between said base layer and said support layer; and
associating said database with said ~~at least one~~ manager application.

71. (Cancelled).

72. (Currently Amended) A computer program product resident on a computer-readable medium for storing instructions for execution by a processor, the

instructions when executed by a processor performing a method of managing a communication network comprising network equipment, said equipment having associated control interfaces, the method comprising:

providing a base layer proxying said interfaces and decoupling said interfaces from management functions;

executing, in said base layer, distributed processes concerning management of said network, each of said processes comprising at least one of workflows, rules, and a combination thereof;

supporting distributed management functionalities via a support layer superposed to said base layer and comprising a plurality of agents ~~co-ordinating~~ coordinating operation of said base layer;

providing a database for storing ~~said~~ instruction information for each of said layers;

distributing said instruction information from said database to each respective layer; and

receiving instruction information in each of said layers; and

performing in each of said layers, functions based on said instruction information;

receiving information indicative of a status of said support layer; and

modifying at least one among said base layer and support layer in response to said status information.

73. (Previously Presented) The architecture of claim 39, wherein said resource proxy modules can support FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities.

74. (Previously Presented) The method of claim 54, further comprising supporting FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities via said resource proxy modules.

75. (Previously Presented) A system comprising:
a network including network equipment, and
a management system architecture according to any one of claims 37, 39–49, 52, 53, and 73 for managing said network.

76. (New) A network management system for managing a communication network comprising network equipment, said equipment having associated control interfaces, the network management system comprising:

a base layer for proxying said interfaces and for decoupling said interfaces from management functions, said base layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising at least one of a workflow engine, a rule engine, and a combination thereof;

a support layer superposed to said base layer and comprising a plurality of agents coordinating operation of said base layer in order to support distributed management functionalities;

a database storing instruction information; and

a manager application configured to distribute said instruction information from said database to at least one of said base layer and said support layer,

wherein said distributed management functionalities include FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities,

wherein said plurality of agents are hosted on at least one machine,

wherein said layers are configured to perform respective functions based on said instruction information,

wherein said layers are configured to modify respective functions in response to said instruction information,

wherein said plurality of agents communicate information indicative of a status of said plurality of agents to said manager application, and

wherein, in response to said status information, said manager application modifies the configuration of at least one among the base layer and the support layer.